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ABSTRACT

A study was conducted to determine how to reverse the downward trend in high school vocational agriculture enrollments in Iowa. The study sought to describe student perception of the agriculture program and what factors are involved in this perception; the length and names of the curriculum offerings within the agriculture department and how they affect enrollment; student perceptions concerning membership in the Future Farmers of America (FFA); and the impact that gender, place of residence, and grade level had on student response. Data were obtained from a survey of 8th-, 9th-, and 10th-grade students in the Waterloo-Cedar Falls, Iowa, area. Responses were received from 306 of the 412 students surveyed (74 percent). Some of the results are as follows: (1) students thought of agriculture as "farming"; (2) students thought that vocational agriculture should be offered for science credit; (3) college admission requirements are a barrier to students' continuation in vocational agriculture in the 11th and 12th grades; (4) scheduling problems are a factor in reducing vocational agriculture enrollments; and (5) less than half of the students were interested in FFA. The study concluded that enrollments in vocational agriculture will continue to drop and that changes in the vocational agriculture curriculum are needed if the trend is to be reversed. Survey forms are appended. (KC)

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FACTORS AFFECTING THE FUTURE ENROLLMENT OF STUDENTS IN VOCATIONAL AGRICULTURE

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CHAPTER I

INTRODUCTION

Vocational education, specifically the agriculture field, has undergone major items of concern the past few years. One of these major items is that of declining enrollments. Many of the agriculture departments in Iowa and the midwest have lost several students over the past five years according to the Iowa Department of Education reports and National FFA membership reports (Iowa Department of Education, 1988 and National FFA Organization, 1988).

The 1988 Iowa Department of Education report showed the Iowa average 1983 vocational agriculture enrollment was 43.28 students per department while the 1987 average enrollment per department was 37.96 students. It stated that 92 Iowa schools, in 1987, had 30 or fewer vocational agriculture students. The enrollment has dropped every year since 1983. Investigating this point further, the report addressed the average ninth grade enrollment per department. This too has declined every year since 1983. In 1984, the average Iowa ninth grade enrollment per department was 10.41 students and, in 1987, this enrollment was 7.90 students. This meant that the Iowa vocational agriculture departments were attracting fewer younger students. This fact combined with some students not continuing their enrollment in vocational agriculture throughout their high school career lead to continual

declining enrollments. The report also reinforced this conclusion by stating that 93 Iowa schools, in 1987, had zero to five freshman vocational agriculture students while in 1986, this held true for 68 schools (Iowa Department Of Education, 1988).

Looking at the national picture of enrollment, The Participation In Selected Activities Report compiled by the National FFA Center showed the total vocational agriculture enrollment in the 1971-72 school year was 576,409 students. In the 1986-87 school year, the total vocational agriculture enrollment was 532,917 students. This was a decrease of 43,492 vocational agriculture students. The peak national total vocational agriculture enrollment from the years 1971 to 1987 was in the 1976-77 school year. The enrollment was 697,499 students.

The FFA membership, on the state and national level, also declined. Iowa's membership in September of 1985 was 11,310 students and in September of 1986 the membership was 10,979 students, according to the National 1987 FFA Manual. This is a decrease of 331 students. This does not seem like many students now, but over a period of time, this will have a detrimental effect. In 1971-72, the membership was 432,288 students while in 1986-87 it was 416,519 students. As of June 30, 1988, the national FFA membership was 404,340 members according to Dr. Larry Case, National FFA Advisor. Again, the peak FFA membership was in 1976-77. A steady decline in the

total FFA membership has occurred since it peaked. Also, the percent of total vocational agriculture students who are FFA members has shown a decline in the last couple of years, according to the National FFA Report.

Another interesting note was that the total national number of vocational agriculture departments has steadily declined since the 1977-78 school year. In the peak year, there were 8666 departments while in 1986-87, there were 8266 departments. This was a decline of 400 departments in nine years (National FFA Center, 1988). Consequently, if vocational agriculture enrollment numbers continue to decline, FFA membership will also decline, and more vocational agriculture departments will be closed. This, in turn, cheats students from receiving a quality vocational education, and puts the vocational agriculture instructors' jobs in jeopardy. This fact has caused needed changes to occur within agriculture departments.

Agriculture programs need to provide offerings that fit each student's need; schedules that do not compete with other requirements; course options so that students can buy the products they need without having to purchase something that does not fit, and classes that satisfy required subjects such as science (Holloway, 1988). The challenge that lies before the instructor is to make sure he/she knows what the need is, adapt the program to this need and make it attractive and available. The instructor should make sure that the

vocational agriculture program being offered reflects the present and forecasted situations, not the past (Taylor, Goode, 1988). The needs should be evaluated on a case-by-case or by a school-by-school basis and should be determined by input received from students, parents, and administrators. The students' input should come from past, current and prospective students. They are all important in helping the vocational agriculture instructor to evaluate the current program and attract more students to the program (Staller, 1988). These students should make-up both rural and urban sectors as well as be both male and female.

The agriculture departments are primarily traditional in nature today, but in order to survive this must be altered. John Moore (1987), professor of biology at the University of California, states, "...traditional vocational agriculture programs are now of minimal usefulness." The USDA predicts that in 1990 eight percent of the agriculture jobs for college graduates will be in farming and 16 percent of the agriculture jobs for technical school graduates will be in farming (Staller, 1988). In traditional agriculture, farming is what is being taught. Other routes need to be examined in order to keep students enrolled. Dr. Don Herring and Richard Norris (1987) suggest semester courses so each student has an opportunity to specialize in their interest area. These include areas of renewable natural resources, agricultural business management, horticulture, and agricultural mechanics.

Herring and Norris (1987) feel that the enrollment of females and urban based students would increase because of this. Presently, the perception of agriculture by young people is that agriculture is dirt farming according to Kunkel (1985). Offering semester courses would hopefully help overcome this perception.

Other items that have been mentioned to increase enrollments in agriculture are to have students receive science and/or math credit for their agriculture courses and do some cosmetic alterations (Warmbrod, Multanen, 1987). Ron Wilson (1987), Vice President of Public Affairs for the Farm Credit Services, stated, "I learned more about how science works in the real world from my agriculture courses than anywhere else in the school." This concept is becoming a reality and causing more schools to offer agriculture as a science and/or math credit. The question still exists, however, how much of an effect will this have on enrollment? John Moore (1987) draws attention to the fact that many students who enroll in a full vocational agriculture program are unable to meet entrance requirements of their state universities since they do not have enough time for required courses. The offering of agriculture courses for science and/or math credit may overcome this statement. Research has shown that today's work place demands students who have had more science, more math, and better communication skills than required in the past. By offering vocational agriculture for

basic credits, the student's needs are filled in preparing for employment (Russell, 1987).

Cosmetic alterations are an item that many states and individuals have tried to help increase enrollments. The effectiveness in itself is unknown, at this point. Warmbrod (1987) feels that cosmetic alterations do little to change the people's perception of vocational agriculture. More is needed than just changing the name vocational agriculture to Agricultural Science and/or Technology or modifying the FFA constitution. Staller (1988) agrees with Warmbrod stating that cosmetic changes are a waste of time. An FFA survey completed recently showed that peer recommendations, not course titles, were a major factor in selecting courses among high school students (Staller, 1988). This comes back to the question of what is the perception of vocational agriculture at the present time? Does not the name or the way the vocational agriculture is referred to have any bearing on enrollment? Is the public not aware of what vocational agriculture is all about? It is these questions and concerns brought out in the preceding paragraphs that lead this project to be completed.

The central purpose of this creative component was to investigate specific items that will help vocational agriculture instructors to reverse the current downward trend in their high school departmental enrollments and return it to its once popular status in the late 1970's or at least to

maintain their current enrollment. Specifically, the objectives researched were:

1. Student perception of the agriculture program and what factors are involved in this perception.
2. The length and names of the curriculum offerings within the agriculture department and how they affect enrollments.
3. Student perceptions concerning membership in the Future Farmers of America (FFA) Organization.
4. The impact that gender, place of residence, and grade level of the students had on the student response.

Since the vocational agriculture program is facing problems nationally, as stated earlier, and the magnitude of these problems are dependent upon location, the research of this project was localized. The demographic and economical factors were similar among the individuals and schools researched. This helped focus on the factors causing enrollments to decline within vocational agriculture departments rather than on the participants' race or the economical status and course offerings of the four school districts.

The research completed prior to administering the survey caused some expectations in results of the survey to occur. One of these expectations was that enrollments would increase in the vocational agriculture classes if they would be offered for math and/or science credit and/or for a semester in length instead of year-long (two semesters). Another expectation of the respondents results was their perception of the typical

vocational agriculture student. It was expected that the results would indicate the student to be male, live in the rural sector, and have an occupational goal of being a farmer. The last expectation was that scheduling vocational agriculture courses was a problem and many students were unable to enroll in vocational agriculture because they did not have enough class hours in a day to get their college preparatory classes in as well as their other courses. The following research will determine if these expectations are true and some possible solutions to the declining enrollment problem will be devised.

CHAPTER II

METHODS AND PROCEDURES

To accomplish the objectives of the report, the method selected was descriptive and utilized a mailed survey instrument. It covered the objectives and items that helped accomplish these objectives included in it. The survey was distributed to 72 eighth grade students, 129 ninth grade students, and 105 tenth grade students in four school systems within the District Seven Area Education Agency. This area covers the Waterloo-Cedar Falls, Iowa area. These schools were selected by random drawing. The selection was made from only those schools that offered agriculture so a true analysis could be derived and all students surveyed would understand the concepts.

The eighth, ninth, and tenth grade students were the only classes surveyed within the selected school systems for several reasons. One reason was that the selected grade levels still had options concerning what high school courses to enroll in and still had time to change their plan of action to enroll in agriculture courses even if they were not planning on it. The 11th and 12th grade students may have set their course schedules and were more unlikely to enroll in agriculture if they did not in the past. It was felt that it would be too early to survey seventh graders because they may not thinking high school or occupational choices at this

point. Also, the number of freshman enrolled in vocational agriculture has declined in Iowa dramatically and there were reasons for this decline. By surveying the eighth, ninth and tenth graders, these reasons could be evaluated. Finally, more students tend to be enrolled in vocational agriculture when they are freshman or sophomores. Considering all items presented, the eighth, ninth, and tenth grade students were chosen.

The survey information was completed and analyzed by determining the mean score of each statement within the survey and categorizing them by objective and/or concept. A determination was made to what the agriculture programs could do to increase enrollments and what the present perception was.

PLAN

1. The survey instrument depicted the present perception of the agriculture departments, and the effects that the length of the courses and the content area of courses had on that perception and future enrollments. Other factors were also addressed concerning the status of the present agriculture programs. FFA enrollment was given consideration, too.
2. The table of specifications was developed from concepts that were researched in the recent past. It also was developed with the concept in mind that

agriculture enrollments need to increase. A copy of the table of specifications is included. See this table to examine the breakdown by content area and objective.

3. Tabulation occurred and was analyzed.
4. The results will be shared with the advisory councils, guidance counselors, and agriculture instructors of the schools that participated in the survey and to others that wish to see them. This will hopefully help agriculture enrollments to increase.

SURVEY TABLE OF SPECIFICATIONS
(Survey question numbers listed in parenthesis)

CONTENT AREA		OBJECTIVES		
	FACTORS	PER-CEPTION	ENROLLMENT IN AG.	ENROLLMENT IN FFA
COURSE OFFERINGS	6 (1-3,54,55)	1 (21)	18 (4-20)	-
CAREER GOALS	4 (24.44,45,53)	-	2 (22-23)	-
SCHEDULING/PROBLEMS	4 (32,43,51,52)	-	3 (29-31)	-
PARENTS	2 (28,47)	-	-	-
FARMING/AGRIBUSINESS	-	3 (25-27)	-	-
VOCATIONAL ASPECT	2 (50,56)	1 (46)	-	3 (33,48,49)
GENERAL AGRICULTURE	-	9 (34-42)	-	-

TRYOUTS

This survey was administered to six students, two teachers, one guidance counselor, and three community members on a trial basis. The researcher's graduate

committee also reviewed the survey. Following the sampling of these individuals, it was obvious that some items needed to be reworded and clarified. Also, it was obvious that a cover letter should accompany the survey to the students to better explain what the survey was to be used for. A suggestion was made too that an informational cover letter be devised to explain the purpose of the survey for the guidance counselor. A second suggestion was made to have the guidance counselors fill out a demographic information survey giving some background information of the school system such as high school enrollments, current agriculture offerings and the total number of surveys completed. The statements that were reworded were the ones most frequently asked to be clarified by the trial survey participants. Also, the cover letters were written with the trial survey participants input and samples of the Department of Public Instruction surveys as guides. (Iowa DPI, October 1985, and Iowa DPI, June 1986).

COLLECTION OF DATA

After final approval was given by the Wapsie Valley school superintendent and guidance counselor, and the Iowa State University graduate committee, the surveys were printed on white paper. The school district's demographic information and cover letters were also printed on white paper. The cover letters were signed by Wapsie Valley's school superintendent, guidance counselor and agriculture

instructor. The surveys were mailed to four schools following a phone call to the guidance counselor to seek their willingness to participate and to obtain the number of surveys that were needed. The schools selected by a random drawing were Dysart-Geneseo, Dunkerton, Allison-Bristow, and Wapsie Valley. These schools all offered agriculture and were willing to participate in the survey. The survey was administered through the guidance counselors since they had contact with all the students daily. A school demographic information survey was also sent with the guidance counselor's cover letter to further gather variable information. (See appendix A for letters and survey).

A second, third and, fourth phone call was made to the school's guidance counselor if the surveys were not returned by the designated date of April 17, 1988. One school needed to be contacted by phone three times because they failed to send the eighth grade survey forms. This school was Wapsie Valley. The surveys were promised to be sent, but were never received. Complete return results are presented in Table 1.

Table 1. Summary of Response Rate

SCHOOL	8TH GRADE			9TH GRADE			10TH GRADE			TOTAL		
	Respond	Total	%Respond	Respond	Total	%Respond	Respond	Total	%Respond	Respond	Total	%Respond
Allison-Bristow	23	26	88%	15	27	55%	8	21	38%	46	74	62%
Dunkerton	37	40	90%	34	38	89%	27	29	93%	98	107	92%
Dysart-Geneseo	12	16	81%	17	19	89%	22	24	92%	51	59	86%
Wapsie Valley	0	52	0%	63	65	97%	48	57	84%	111	172	65%
Grand Total	72	134	54%	129	149	87%	105	131	80%	306	412	74%

Wapsie Valley comprised 36 percent of the surveys completed while Dunkerton comprised 32 percent, Dysart-Geneseo comprised 17 percent, and Allison-Bristow comprised 15 percent of the total surveys. However, Dunkerton had the best response rate. Overall, 74 percent of the surveys sent were returned. This is an acceptable level, but a higher rate was desired. Also, the eighth grade had the lowest response rate of the three grades with the ninth and tenth grades tied.

TIMELINE

The following timeline was used in carrying out the research in this creative component.

March 8, 1987 1) Table of Specifications was developed keeping in mind the

		purpose and objectives of the study.
March 9, 1987	2)	The actual survey instrument was written.
March 15-18, 1987	3)	The trial run was ran.
September 21-25, 1987	4)	Graduate Committee made recommendations to the survey.
October 3, 1987	5)	Cover letters written.
October 4, 1987	6)	Four schools selected to administer survey at.
October 5-12, 1987	7)	Graduate Committee, Guidance Counselor, and Superintendent approved survey.
October 13, 1988	8)	Phone calls made to guidance counselors to verify their selection and find school enrollments.
December 8-17, 1987	9)	Surveys Printed
January 18, 1988	10)	Surveys sent to schools
March 7, 1988	11)	Surveys due back
February 28, 1988		-Allison-Bristow
March 6, 1988		-Dysart-Geneseo
March 1, 1988		-Dunkerton
March 7, 1988		-Wapsie Valley
March 18, 1988	12)	Phone calls to Wapsie Valley
April 25, 1988		Junior High to obtain the 8th
May 17, 1988		grade surveys.
June 20-30, 1988	13)	Response data tabulated and analyzed.
June 27-July 5, 1988	14)	Creative Component written

CHAPTER III

ANALYSIS OF DATA

The data was coded and entered into a data base for sorting and printing out. Each respondents answers to the survey were coded and the following demographic information was included in the data base records: 1) school, 2) grade, 3) gender, 4) whether the student was enrolled in agriculture in the past or at the present time, 5) where the student lives, 6) whether or not the students' siblings have taken agriculture classes, 7) whether or not the student is a past or present 4-H member, and 8) whether or not the student was involved in athletics. A summary of the demographic information of the survey participants are found in tables 2, 3, 4, 5, and 6.

Table 2. Overall Demographic Information By Grade and Gender

DEMOGRAPHIC INFORMATION	MALES		FEMALES		TOTAL	
OVERALL GRADE AND GENDER	Number	Grade %	Number	Grade %	Number	Grade %
8th Grade	39	54%	33	46%	72	24%
9th Grade	55	43%	74	57%	129	42%
10th Grade	62	59%	43	41%	105	34%
Grand Total	156	51%	150	49%	306	--

There were two percent more total males than total females surveyed. There were also more total ninth graders than either one of the other two grades. The largest class

surveyed was the ninth grade, but yet the 1987 ninth grade vocational agricultural enrollment declined state-wide by an average of 2.95 students over 1986 (Iowa Department of Education, 1988). However, the ninth grade consists of more female students than male students. This could contribute to the above fact of declining enrollments in the ninth grade specifically and overall within the vocational agriculture program.

Table 3. Overall Demographic Information By Living Situation and Gender

DEMOGRAPHIC INFORMATION OVERALL LIVING SITUATION AND GENDER	MALES		FEMALES		TOTAL	
	Number	Grade %	Number	Grade %	Number	Grade %
Acreage	39	46%	45	54%	84	27%
Farm	46	53%	40	47%	86	28%
Town	71	52%	65	48%	136	45%
Grand Total	156	51%	150	49%	306	--

Notice that 45 percent of the respondents are town students and the total acreage and total farm students are fairly evenly split. However, there are still more rural respondents than urban respondents. Breaking down the males and females in each living situation, it is obvious that a higher percentage of females live on acreages compared to the males while the opposite is true for the farm and town sectors.

Table 4. Overall Yes/No Demographic Information

DEMOGRAPHIC INFORMATION OVERALL	TOTAL RESPONSES	YES RESPONSE		NO RESPONSE	
		Number	Percent	Number	Percent
Enrolled in agriculture in the past	304	58	19%	246	81%
Enrolled in agriculture at present	304	45	15%	259	85%
Siblings enrolled in agriculture in the past	302	76	25%	226	75%
Past or present 4-H member	305	94	31%	211	69%
Participated in athletics in the past or present	290	238	82%	52	18%

The group surveyed did not answer all the demographic information. Therefore, the number of total responses for each item are included on the table. The table shows that over eighty percent of the respondents have not been enrolled in agriculture in the past or are not currently enrolled. All schools surveyed offer the vocational agriculture program. Only 25 percent of the respondents have had brothers or sisters enrolled in the program. However, this percentage is higher than the two percentages mentioned above. This means that just because a student's siblings have been enrolled in the vocational agriculture program does not mean they too will automatically enroll. Evaluating the 4-H aspect, 69 percent of the students that responded do not belong to 4-H while 31 percent do. This is surprising because many students belong

to 4-H in their younger years and then drop out. However, fewer join than do not join. The athletics issue is not one of a surprise. Most students participated some type of sport while in school. However, 16 students failed to respond to this question.

Table 5. Females Yes/No Demographic Information

DEMOGRAPHIC INFORMATION FEMALES	TOTAL RESPONSES	YES RESPONSE		NO RESPONSE	
		Number	Percent	Number	Percent
Enrolled in agriculture in the past	148	17	11%	131	89%
Enrolled in agriculture at present	148	9	6%	139	94%
Siblings enrolled in agriculture in the past	148	43	29%	105	71%
Past or present 4-H member	149	58	39%	91	62%
Participated in athletics in the past or present	141	109	77%	32	23%

This table illustrates that fewer females are enrolled in vocational agriculture at the present time than in the past and that siblings enrolled in the program make little difference to whether the student enrolls or not. Also, compared to the results in the previous table, females are not likely to enroll in vocational agriculture. Females are more likely to participate in 4-H than males and are less likely to participate in athletics, however.

Table 6. Male Yes/No Demographic Information

DEMOGRAPHIC INFORMATION MALES	TOTAL RESPONSES	YES RESPONSE		NO RESPONSE	
		Number	Percent	Number	Percent
Enrolled in agriculture in the past	156	41	26%	115	74%
Enrolled in agriculture at present	156	36	23%	120	77%
Siblings enrolled in agriculture in the past	154	33	21%	121	79%
Past or present 4-H member	156	36	23%	120	77%
Participated in athletics in the past or present	149	129	87%	20	13%

The demographic information of the males holds true to the statements made in the previous table. Males are more apt to enroll in vocational agriculture than their female counterpart, but yet less than 25 percent of the total males surveyed are enrolled in vocational agriculture at the present time as well as in the past. Fewer siblings were enrolled for the males compared to the females, but it appears that the male students were more apt to enroll in vocational agriculture if their siblings enrolled. The males were less likely to enroll in 4-H than the females and definitely more likely to participate in athletics compared to the females. The vast majority of males participated in athletics.

The last five tables summarized what type of student the survey polled. It can be concluded that the males are more

likely to become involved in the high school and enroll in the agriculture program, but the females are more likely to participate in the 4-H program or community based programs.

The next table, Table 7, gives an overall view of each question. Printouts of the coded data for each question were made to compare results. Questions from the survey were grouped according to the objective and content area that it covered. Therefore, four main groups were devised. To determine if respondents agreed or disagreed with a particular item the number of respondents who answered the question was tabulated as well as the mean and raw score for each item. This was done on an overall basis disregarding what gender the respondents were, what grade level they were in, or in what type of living situation they were in. The frequency of responses was checked for this situation by grouping and totaling together the categories of strongly agree (ranked 5 on the scale) and agree (ranked 4 on the scale), and the categories of disagree (ranked 2 on the scale) and strongly disagree (ranked 1 on the scale). The category of undecided (ranked 3 on the scale) was left alone.

Table 7. Overall Summary of Student Responses

QUESTIONS	TOTAL			SA, A		UNDECIDED		SDA, DA	
	Surveys	Raw Score	Mean Score	Raw Score	Percent	Raw Score	Percent	Raw Score	Percent
FACTORS									
Course Offerings									
1	304	1054	3.47	563	53	447	42	44	4
2	306	1069	3.49	714	67	273	26	82	7
3	306	945	3.08	492	52	315	33	138	15
54	42	83	1.98	4	5	42	51	37	44
55	39	85	2.18	35	41	33	39	17	20
Career Goals									
24	306	795	2.60	232	29	348	44	215	27
44	43	98	2.28	28	37	36	37	34	35
45	46	131	2.80	39	30	72	55	20	15
53	48	114	2.38	40	35	45	39	29	25
Scheduling Problems									
32	304	832	2.74	335	40	324	39	173	21
43	45	133	2.96	40	30	42	32	51	38
51	40	81	2.03	8	10	39	48	34	42
52	39	100	2.56	27	27	48	48	25	25
Parents									
28	306	1258	4.11	1060	84	183	15	15	1
47	47	101	2.15	27	27	30	30	44	43
Vocational Aspect									
50	45	115	2.55	48	42	33	29	34	29
56	43	91	2.11	13	14	45	49	33	36
PERCEPTION									
Course Offerings									
21	306	529	1.73	100	19	165	31	264	50
Farming Agribusiness									
25	306	1201	3.92	1044	87	90	7	67	6
26	306	864	2.82	303	35	369	43	192	22
27	306	612	2.00	137	22	171	28	304	50
Vocational Aspect									
46	48	108	2.25	17	16	57	53	34	31

Table 7 continued. Overall Summary of Student Responses

QUESTIONS	TOTAL			SA,A		UNDECIDED		SDA,DA	
	Surveys	Raw Score	Mean Score	Raw Score	Percent	Raw Score	Percent	Raw Score	Percent
General Agriculture									
34	306	1099	3.56	749	69	264	24	77	7
35	306	695	2.27	183	27	267	38	245	35
36	306	1249	4.08	1102	88	117	10	30	2
37	306	914	2.99	428	47	330	36	156	17
38	306	1380	4.51	1304	94	66	5	10	1
39	306	1077	3.52	748	70	252	23	77	7
40	306	1243	4.03	1013	82	195	16	26	2
41	306	762	2.49	156	20	402	53	204	27
42	306	814	2.66	120	15	537	66	157	19
ENROLLMENT AGRICULTURE Course Offerings									
4	306	773	2.52	261	34	258	33	254	33
5	306	784	2.56	280	36	264	34	240	31
6	306	901	2.94	446	50	291	32	164	18
7	306	1012	3.31	684	68	198	20	130	12
8	306	930	3.04	586	63	159	17	185	20
9	306	908	2.97	482	54	240	26	186	20
10	306	997	3.26	625	63	246	25	126	12
11	306	800	2.61	315	39	243	30	242	31
12	306	853	2.79	348	41	318	37	187	22
13	306	873	2.85	390	45	300	34	183	21
14	306	907	3.00	537	59	201	22	169	19
15	306	940	3.07	537	57	240	26	163	17
16	306	847	2.77	348	41	306	36	193	23
17	306	777	2.54	251	32	285	37	241	31
18	306	884	2.89	219	25	458	52	207	23
19	306	870	2.81	310	36	333	38	177	20
20	303	877	2.89	408	46	303	34	166	20
Career Goals									
22	306	809	2.64	279	34	236	30	294	36
23	306	1192	3.90	968	81	189	16	35	3
Scheduling Problems									
29	246	584	2.37	162	28	237	41	185	32
30	305	809	2.65	370	46	237	29	202	25
31	303	807	2.67	352	44	258	32	197	24

Table 7 continued. Overall Summary of Student Responses

QUESTIONS	TOTAL			SA,A		UNDECIDED		SDA,DA	
	Surveys	Raw Score	Mean Score	Raw Score	Percent	Raw Score	Percent	Raw Score	Percent
ENROLLMENT									
FFA									
Vocational Aspect									
33	304	832	2.74	385	46	261	32	186	22
48	37	117	3.16	68	58	33	28	16	14
49	34	73	2.15	22	30	30	41	21	29

**The respondents used the following scale:
Strongly Agree (SA)--5 points Agree (A)--4 points
Undecided--3 points Disagree (DA)--2 points
Strongly disagree (SDA)--1 point

Not all questions pertained to all students, so the respondents did not answer some of the questions. Therefore, the total number of respondents for each question was tabulated and the results were included on this table under the column labeled surveys.

The mean scores show only 16 of the 56 items received a rating of three or higher. This means that these 16 were items that the respondents agreed with. Of the 16 items, four received ratings above four while the remaining 12 items received ratings between three and four. None of the 16 items received a strongly agree rating, however. Of the remaining 40 items two received ratings less than two. No items were a definite strongly disagree. Following is a brief analysis of the table. The number in parenthesis following various

statements are referring to what question on the survey the statement is referring to.

After viewing the table, it can be concluded that respondents agree that agriculture is important to Iowa (38) and that parents would not mind if their son/daughter enrolled in courses in vocational agriculture (28). On the other extreme, it can be concluded that the respondents feel that the program is for males and females (21), and the course length does not have a large effect on the students not continuing to take vocational agriculture once enrolled (54).

The table also indicates that the students surveyed feel that science credit should be offered for vocational agriculture courses as well as offering semester courses opposed to year-long courses (1-3). The two semester courses that rated the highest of the 12 rated were a semester in animal science and a semester of environmental science (7-10). The lowest two were a semester on soil science and a semester of crop science (4-5). These two semesters typically make up a year-long course in a traditional agriculture program. This year-long course received the lowest rating of the four year-long courses rated, also (16-19). The results do indicate, though, students prefer to enroll in selected semester courses opposed to the traditional year-long program (4-20). The same material may be covered, but the students feel they have greater flexibility.

The foreign language requirement plus other high school graduation requirements and college entrance requirements have to some degree had an effect on the enrollments, but it is not a dramatic effect. The questions pertaining to this rated less than three (32, 43, 51, and 52).

The perception of agriculture was brought out by the participants as being detrimental. Most respondents, 87 percent, agree that agriculture is farming and 35 percent thought of it as agribusiness (25,26). However, most realize it is a business and that it affects their lifestyle (34).

Last of all, the future enrollment does not look good. The eighth graders responded with negative statements in the willingness to enroll in vocational agriculture and FFA (33).

The next table breaks the same questions down based on the grade level. This will further analyze the facts and determine if the grade level has much of an effect on the results.

Table 8. Student Response Based On Grade

QUESTIONS	8TH GRADE			9TH GRADE			10TH GRADE		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
FACTORS									
Course Offerings									
1	72	240	3.33	128	463	3.62	103	351	3.41
2	72	245	3.40	129	441	3.42	105	383	3.65
3	72	217	3.01	129	388	3.01	105	340	3.24
54	0	0	0.00	14	27	1.93	28	56	2.00
55	0	0	0.00	13	27	2.08	26	69	2.65
Career Goals									
24	72	200	2.78	129	326	2.53	105	269	2.56
44	0	0	0.00	13	34	2.62	29	64	2.21
45	0	0	0.00	14	39	2.79	31	92	2.97
53	0	0	0.00	14	33	2.36	33	79	2.39
Scheduling Problems									
32	72	224	3.11	129	338	2.62	103	270	2.62
43	1	4	4.00	15	40	2.67	32	89	2.78
51	0	0	0.00	13	32	2.46	27	49	1.81
52	0	0	0.00	13	35	2.69	27	65	2.41
Parents									
28	72	289	4.01	129	524	4.06	105	445	4.24
47	0	0	0.00	34	64	1.88	12	18	1.50
Vocational Aspect									
50	0	0	0.00	13	31	2.38	32	84	2.62
56	0	0	0.00	14	30	2.14	29	61	2.10
PERCEPTION									
Course Offerings									
21	72	111	1.54	129	223	1.73	105	195	1.86
Farming Agribusiness									
25	72	278	3.86	129	506	3.92	105	417	3.97
26	72	198	2.75	129	360	2.79	105	306	2.91
27	72	128	1.78	129	277	2.15	83	207	2.49
Vocational Aspect									
46	1	3	3.00	14	35	2.50	34	70	2.06

Table 8 continued. Student Response Based On Grade

QUESTIONS	8TH GRADE			9TH GRADE			10TH GRADE		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
General Agriculture									
34	72	268	3.72	129	434	3.36	105	388	3.70
35	72	169	2.35	129	295	2.29	105	231	2.20
36	72	297	4.12	129	521	4.04	105	431	4.10
37	72	208	2.89	129	393	3.05	105	313	2.98
38	72	326	4.53	129	573	4.44	105	481	4.58
39	72	255	3.54	129	429	3.33	105	393	3.74
40	72	288	4.00	129	513	3.98	105	433	4.12
41	72	183	2.54	129	337	2.61	105	242	2.30
42	72	200	2.78	129	346	2.68	105	268	2.55
ENROLLMENT IN AGRICULTURE Course Offerings									
4	72	192	2.67	129	324	2.51	105	257	2.45
5	72	202	2.81	129	329	2.55	105	253	2.41
6	72	217	3.01	129	369	2.86	105	315	3.00
7	72	246	3.42	129	441	3.42	105	325	3.10
8	72	261	3.62	129	354	2.74	105	315	3.00
9	72	238	3.31	129	350	2.71	105	320	3.05
10	72	233	3.24	129	418	3.24	105	345	3.29
11	72	193	2.68	129	341	2.64	105	266	2.53
12	72	196	2.72	129	360	2.79	105	297	2.83
13	72	208	2.89	129	354	2.74	105	311	2.96
14	72	197	2.74	129	390	3.02	105	320	3.05
15	72	228	3.17	129	377	2.92	105	335	3.19
16	72	203	2.82	129	349	2.71	105	295	2.81
17	72	180	2.50	129	324	2.51	105	273	2.60
18	72	244	3.39	129	340	2.64	105	300	2.86
19	72	211	2.93	129	362	2.81	105	297	2.83
20	72	228	3.17	129	344	2.67	102	305	2.99
Career Offerings									
22	72	184	2.56	129	325	2.52	105	270	2.57
23	72	264	3.67	129	497	3.85	105	431	4.10
Scheduling Problems									
29	71	179	2.52	117	267	2.28	58	138	2.38
30	72	198	2.75	129	330	2.56	104	281	2.70
31	72	189	2.62	128	331	2.59	103	287	2.79

Table 8 continued. Student Response Based On Grade

QUESTIONS	8TH GRADE			9TH GRADE			10TH GRADE		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
ENROLLMENT IN FFA Vocational Aspect									
33	70	197	2.81	129	340	2.64	105	295	2.81
48	1	2	2.00	10	31	3.10	26	84	3.23
49	1	3	3.00	10	25	2.50	23	45	1.96

Looking at the mean scores, there are three questions that consecutively rated above four for all three grades. These are questions 28, 36, and 38. Question 40 also received a high rating by two of the grades. These questions pertain to the parents and the general perception of agriculture. It appears parents are not holding their sons and daughters back from enrolling in vocational agriculture and that the respondents agree agriculture is more than farming. However, all grades think of farming when they think of agriculture (25).

On the low side, all grades concurred that males are not the only one to enroll in agriculture (2). They feel it is open to females as well.

All classes agree that the agriculture department should offer semester courses for science credit (1-2) and change the department name to Agri-science (3). The semester courses that were favorites varied with the grade. Grade eight favored animal science and small gas engines while nine and

ten also favored the animal science, but they liked the horticulture aspect of floriculture and landscaping. None of the classes favored advanced livestock management (4-15). The year-long courses were rated lower (16-19) than the semester courses, but the agricultural mechanics proved to be the favorite class for grades eight and ten while grade nine selected agribusiness and farm management.

Looking at the perception of agriculture, under the content area of farming/agribusiness, it is to be noted that the younger students are more free thinking. The older students feel one should live on a farm to be enrolled in agriculture and they think of farming when thinking of agriculture more so than a younger student (25,26,27).

Overall, though, there is not a drastic difference in thinking on any item by grade level. Therefore, one can judge the overall results with little attention to grade level.

The next chart takes a look at how gender influences the student responses.

Table 9. Student Responses By Gender

QUESTIONS	FEMALES			MALES		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
FACTORS						
Course Offerings						
1	147	518	3.52	156	531	3.40
2	149	514	3.45	156	550	3.53
3	149	475	3.19	156	467	2.99
54	10	26	2.60	31	57	1.84
55	8	14	1.75	30	82	2.73
Career Goals						
24	149	377	2.53	156	416	2.67
44	11	31	2.82	31	67	2.16
45	11	33	3.00	34	98	2.88
53	12	31	2.58	35	83	2.37
Scheduling Problems						
32	149	424	2.85	155	407	2.63
43	13	38	2.92	35	95	2.71
51	9	18	2.00	31	63	2.03
52	9	25	2.78	31	15	.48
Parents						
28	149	630	4.23	156	623	3.99
47	12	18	1.50	34	83	2.44
Vocational Aspect						
50	11	27	2.45	34	88	2.59
56	10	17	1.70	33	74	2.24
PERCEPTION						
Course Offerings						
21	149	210	1.41	156	318	2.04
Farming Agribusiness						
25	149	581	3.90	156	618	3.96
26	149	415	2.79	156	444	2.85
27	149	227	1.52	156	354	2.27
Vocational Aspect						
46	11	22	2.00	38	86	2.26

Table 9 continued. Student Responses By Gender

QUESTIONS	FEMALES			MALES		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
General Agriculture						
34	149	526	3.53	156	559	3.58
35	149	321	2.15	156	368	2.36
36	149	615	4.13	156	628	4.03
37	149	451	3.03	156	459	2.94
38	149	670	4.50	156	705	4.52
39	149	506	3.40	156	566	3.63
40	149	592	3.97	156	637	4.08
41	149	381	2.56	156	378	2.42
42	149	397	2.66	156	414	2.65
ENROLLMENT IN AG. Course Offerings						
4	149	354	2.38	156	417	2.67
5	149	353	2.37	156	429	2.75
6	149	427	2.87	156	470	3.01
7	149	499	3.35	156	509	3.26
8	149	344	2.31	156	582	3.73
9	149	378	2.54	156	528	3.38
10	149	491	3.30	156	502	3.22
11	149	370	2.48	156	426	2.73
12	149	443	2.97	156	406	2.60
13	149	447	3.00	156	424	2.72
14	149	561	3.77	156	342	2.19
15	149	478	3.21	156	458	2.94
16	149	399	2.68	156	444	2.85
17	149	346	2.32	156	429	2.75
18	149	340	2.28	156	543	3.48
19	149	413	2.77	156	456	2.92
20	148	439	2.97	156	437	2.80
Career Offerings						
22	149	357	2.40	156	419	2.69
23	148	357	2.41	156	591	3.79
Scheduling Problems						
29	118	258	2.19	129	375	2.91
30	149	360	2.42	156	448	2.87
31	149	393	2.64	156	413	2.65

Table 9 continued. Student Responses By Gender

QUESTIONS	FEMALES			MALES		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score
ENROLLMENT IN FFA Vocational Aspect						
33	148	393	2.66	156	438	2.81
48	10	26	2.60	27	91	3.37
49	8	15	1.88	25	58	2.32

Evaluating this table shows the same highs and lows as the previous tables and tells the same story as the other ones. When comparing the male and female results, they are surprisingly similar. A few differences in opinion did occur, though. Females tend to favor semester courses over year-long courses more so than their male counterpart (1). The females blame their lack of continued enrollment in agriculture because of year-long courses while the males attribute it to the need to take other non-agriculture semester courses (54, 55). However, both favor semester courses in agriculture (1). The type of semester course favored is different though. The females like floriculture (14) and the males like small gas engines (8). Each sex's least favorite semester course is the other's favorite. The favorite year-long courses also vary depending on the sex. The females favor introduction to agriculture and animal science (16) while the males favor agricultural mechanics (18). The females selected

agricultural mechanics as their least favorite while the males selected crop science and soil science (17).

Evaluating the gender effect in more detail also shows females are less likely to enroll in agriculture than males (29). The parents tend to discourage the females more (47) which may be part of the reason there are fewer females enrolled. Finally, more males feel that a student should live on a farm to be enrolled in vocational agriculture. The females rate this concept very low (27). Therefore, the perception is weaker in the male sector.

Table 10. Student Responses Based On Living Situation

QUESTIONS	ACREAGE			FARM			TOWN		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Mean Score	Raw Score
FACTORS									
Course Offerings									
1	81	277	3.42	85	286	3.36	136	482	3.54
2	82	287	3.50	86	312	3.63	136	461	3.39
3	82	249	3.04	86	255	2.97	136	434	3.19
54	11	19	1.73	17	33	1.94	14	31	2.21
55	11	33	3.00	29	15	.52	12	34	2.83
Career Goals									
24	82	209	2.55	86	227	2.64	136	404	2.97
44	11	22	2.00	16	36	2.25	14	38	2.71
45	13	38	2.92	18	54	3.00	34	98	2.88
53	13	26	2.00	18	41	2.28	35	83	2.37
Scheduling Problems									
32	82	201	2.45	85	240	2.82	135	383	2.84
43	14	43	3.07	19	49	2.58	15	41	2.73
51	11	25	2.27	15	27	1.80	13	27	2.08
52	12	33	2.75	15	34	2.27	12	31	2.58
Parents									
28	82	337	4.11	86	350	4.07	136	559	4.11
47	14	40	2.86	18	31	1.72	14	29	2.07
Vocational Aspect									
50	13	33	2.54	26	39	15.00	15	40	2.67
56	11	22	2.00	17	33	1.94	14	34	2.43
PERCEPTION									
Course Offerings									
21	82	137	1.67	86	146	1.70	136	239	1.76
Farming Agribusiness									
25	82	312	3.80	86	333	3.87	136	353	2.60
26	82	223	2.72	86	253	2.94	136	377	2.77
27	82	159	1.94	86	171	1.99	136	463	3.40
Vocational Aspect									
46	14	27	1.93	11	41	3.73	16	37	2.31

Table 10 continued. Student Responses Based On Living Situation

QUESTIONS	ACREAGE			FARM			TOWN		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Mean Score	Raw Score
General Agriculture									
34	84	282	3.36	86	321	3.73	136	463	3.40
35	82	182	2.22	86	185	2.15	136	323	2.38
36	82	332	4.05	86	360	4.19	136	544	4.00
37	82	242	2.95	86	274	3.19	136	391	2.88
38	82	364	4.44	86	397	4.62	136	606	4.46
39	82	270	3.29	86	346	4.02	136	449	3.30
40	82	311	3.79	86	374	4.35	136	536	3.94
41	82	190	2.32	86	201	2.34	136	365	2.68
42	82	218	2.66	86	222	2.58	136	368	2.71
ENROLLMENT IN AGRICULTURE Course Offerings									
4	82	213	2.60	86	223	2.59	136	328	2.41
5	82	206	2.51	86	249	2.90	136	323	2.38
6	82	231	2.82	86	265	3.08	136	399	2.93
7	82	265	3.23	86	321	3.73	136	416	3.06
8	82	248	3.02	86	272	3.16	136	405	2.98
9	82	235	2.87	86	253	2.94	136	411	3.02
10	82	259	3.16	86	287	3.34	136	429	3.15
11	82	201	2.45	86	276	3.21	136	317	2.33
12	82	216	2.63	86	259	3.01	136	369	2.71
13	82	221	2.70	86	254	2.95	136	379	2.79
14	82	239	2.91	86	262	3.05	136	394	2.90
15	82	241	2.94	86	273	3.17	136	417	3.07
16	82	226	2.76	86	260	3.02	136	354	2.60
17	82	198	2.41	86	252	2.93	136	322	2.37
18	82	236	2.88	86	254	2.95	136	389	2.86
19	82	230	2.80	86	247	2.87	136	387	2.85
20	81	208	2.57	86	264	3.07	135	398	2.95
Career Offerings									
22	81	195	2.41	86	217	2.52	136	361	2.65
23	82	334	4.07	86	339	3.94	135	506	3.75
Scheduling Problems									
29	66	153	2.32	72	196	2.72	107	231	2.16
30	82	211	2.57	86	267	3.10	136	322	2.37
31	82	207	2.52	86	240	2.79	136	355	2.61

Table 10 continued. Student Responses Based On Living Situation

QUESTIONS	ACREAGE			FARM			TOWN		
	Number	Raw Score	Mean Score	Number	Raw Score	Mean Score	Number	Mean Score	Raw Score
ENROLLMENT IN FFA Vocational Aspect									
33	82	202	2.46	85	333	3.92	136	351	2.58
48	15	26	1.73	18	42	2.33	8	47	5.88
49	15	13	.87	11	23	2.09	7	36	5.14

This last table compares where the students live and how the respondents' answers to the survey questions differed. It is evident when looking over the survey that the farm students are more likely to enroll in agriculture courses than town or acreage students (29,30, 31). Also, the farm students have a stronger perception of agriculture, but one that is not wanted to be promoted. The farm students think of farming when referring to agriculture while the town and acreage students think of agriculture as agribusiness, also (25,37). However, the town students feel that one must live on a farm to enroll in vocational agriculture (27). All students think of farming as a business, but the farm students think of it in more of a true sense than the others (40).

It seems as if the parents have the most effect on the acreage students in discouraging them in enrolling in vocational agriculture while they have the least effect on farm students (47). The opposite is true on the value of the Supervised Occupational Experience (SOE or SAE) programs as

rated by the students (46). These facts are due to what the students have for resources and the experiences of their parents.

Athletic involvement tends to hinder more town students than either the acreage or farm students, but it hinders the farm student the least (50). This must be caused by the fact that many farm students do not have time for athletics and many town students use athletics to occupy their time.

Comparing the types of year-long and semester courses that all sectors liked proved to be interesting. All sectors agreed that semester courses for science credit under the name Agriscience is an improvement from the present agriculture course situation (1,2,3). The type of semester courses that the town students liked was a semester of environmental science. Their least favorite semester course was advanced livestock management (10,11). Their favorite year-long course was agricultural mechanics while their least favorite semester course was soil science (7,4). The year-long course they liked was introduction to agriculture and animal science and their least favorite semester course was farm/agribusiness management (16,17). The acreage students also liked the animal science semester course, but chose the semester course environmental science as their least favorite (7,10). The year-long courses they selected were agricultural mechanics for their favorite and crop and soil science as their least favorite (18,17).

There were some similarities between the sectors but there were more differences. It can be concluded that the type of living situation has a dramatic effect on student responses. This is shown well in the student's desire to take various courses.

CHAPTER IV

SUMMARY, CONCLUSIONS, IMPLICATIONS

Summary

The survey administered to the eighth, ninth, and tenth grade students at four different schools has shown many concepts and comparisons that may affect the future of vocational agriculture departments within Iowa and the nation. It compared demographic data and the effect this data had on student responses. It also investigated the effect of offering semester courses and year-long courses on the future enrollments of agriculture. Present student perceptions of vocational agriculture departments were analyzed with many surprising results occurring (see Table 7). Many conclusions can be reached after reading this report and analyzing the data. It is the function of the next part of this report to summarize these conclusions and draw implications based upon the conclusions.

Conclusions

The findings derived from this survey are many. First, it is depicted by the charts and tables developed that a greater percentage of students should be enrolled in vocational agriculture if existing programs are to be maintained. Of the students surveyed, currently 15 percent of the high school enrollment is enrolled in vocational agriculture. This is down from the 19 percent that had been

enrolled in vocational agriculture in the past (Table 4). The percentages of females and males both declined from the past to the present. However, the female enrollment has declined by five percent and the male enrollment declined by three percent (Tables 5 and 6). Neither one should have declined or at least by that much. It can be concluded that if a female student's siblings were enrolled in vocational agriculture, it has little affect on them. However, the males are just the opposite. If a male student's siblings enrolled in vocational agriculture, there would be a better chance he would enroll in vocational agriculture.

Table 7 reflects some major conclusions based upon the overall survey results. It can be concluded that vocational agriculture departments need to change their name to Agriscience or another term that depicts change. But, besides changing the name other changes need to be made. These changes include offering vocational agriculture for science credit. More than one-half of the students surveyed felt very strongly about this question. If this change is made, a noticeable increase in student numbers may result.

A second conclusion that can be derived is that college admission requirements are not yet widely known to the ninth and tenth grade students or they do not care about them. Question 45 addressed this concept, and it received an overall rating of less than three. However, the tenth grade students rated the college admission requirements as a problem in being

able to continue their enrollment in agriculture programs past the ninth grade.

A surprising conclusion, of the survey, was that students found scheduling problems rather than other curriculum offerings to be a greater reason why they are unable to enroll in agriculture or maintain their enrollment. However, neither concept was rated a three or higher. Therefore, scheduling problems are a factor, but not the most important factor in reduced high school agriculture enrollments.

Parents often are blamed for low vocational agriculture enrollment since they are perceived to not let their children enroll in vocational agriculture courses. However, no data supporting this argument was found. Students rated parental support high in encouraging them to enroll in vocational agriculture courses. Therefore, parents should not be blamed for low enrollment in vocational agriculture.

The survey addressed the concept of "hands-on" learning and whether students are currently receiving this type of instruction (question 50). The rating received would be expected to be as low as possible if the vocational education was delivered correctly, but it received a rating of 2.11. This indicates some reform should be made in the methods used in delivering the vocational agriculture curriculum.

A conclusion that was not expected from the survey was that there is <u>not</u> a strong belief that males should be the only ones enrolled in vocational agriculture. It appears that

female students would be welcome in the vocational agriculture program, but many do not enroll. Therefore, an effort needs to be made to recruit females into the vocational agriculture program.

An expected conclusion was that most of the surveyed students thought of farming when they heard the word agriculture. This does not mean that only those students engaged in farming enroll in agriculture, but it is the first instinct received. This concept was prevalent among all categories evaluated when broken down, but the town students rated it lower than the other categories. It can be concluded that the town students are more flexible in their thinking than the farm or acreage students.

The concept of the "hands on" learning is strengthened in the vocational agriculture program by the Supervised Agricultural Experience (SAE or SOE) program . All students are required to participate in SOE/SAE. From the survey results, one can conclude that the present and past students of vocational agriculture feel the supervised experience program is beneficial. The only category of students who felt that this was not the case was the farm students. This could be attributed to the fact that many farm students just take something they have at home for a "project". They do not "truly" have their own program. Therefore, it may be more of a nuisance for them compared to the other categories of students.

Overall, the perception of agriculture seems to be understood, but there are a few concepts that need to be reinforced. First of all, the female group needs to be educated on the importance of agriculture as well as the function of agriculture. Part of the male group needs this education also, but the females tend to need it more.

The survey results (Table 10) reflected that the farm students need to understand that there is more to agriculture than just farming and those business people we deal with in our small towns. They also need to understand that farming is a business just as a business in town.

Another major conclusion that can be drawn is that vocational agriculture departments need to implement semester courses. Student response was highly favorable for this move and the types of semester courses were varied. However, the highest rated semester course was in the area of animal science while the least favorite semester course was in the area of soil science. Environmental science was also rated very high. The students selected course names ending in science so science credit should be awarded to these courses provided they truly are science courses. This should be determined by the local school board, school administrators, advisory councils, ant teachers of both science and agriculture. Year-long courses were not rated as favorable as the semester courses, but students would enroll if that was all that was offered. The most favorable year-long course was

agricultural mechanics while the least favorable year-long course was crop and soil science. It can be concluded that some students are not as interested in soils and crops.

Another conclusion that can be derived is that specifically eighth grade students would like to see an exploratory course at the junior high. The farm students also agreed with this concept. However, the overall group rated this concept 2.59 so it did not rate very high. However, 46 percent of those surveyed agreed or strongly agreed with this idea. Therefore, it can be concluded that the exploratory program would an asset to the junior high curriculum.

It was expected that the students surveyed would expect the students of vocational agriculture to be engaged in farming after high school. However, this was not the case. Because of this, what an individual's career goals are does not always dictate what their chosen curriculum is in high school.

Another conclusion that can be made is that vocational agriculture enrollments will be suffering in the 1988-89 school year as well as later. The majority of the eighth grade students are not planning on enrolling in vocational agriculture their freshman year. However, some students that were surveyed plan on enrolling in vocational agriculture sometime during their high school career, but not their freshman year. These will predominantly be farm students,

followed by town students. They will also be of the male gender predominantly.

Looking at the FFA organization, this could experience further membership decline other than just the vocational agriculture student decline. The survey indicates that only 46 percent of those students surveyed would be interested in membership in the organization if they were enrolled in vocational agriculture. Instructors should make a systematic effort to explain the benefits of membership to counteract this opinion of the students. The eighth graders exhibited the most willingness to join the organization while the tenth graders showed the least desire to join. In fact, less than one percent of the tenth grade plan on taking membership. The survey results draw the conclusion that those who join the organization would probably be male and be from the farm.

Another conclusion that can be derived is that when an instructor explains the vocational agriculture program to potential students he/she does not need to prepare a different message for eighth graders verses tenth graders. With the exception of FFA, their perceptions, enrollment guidelines, beliefs and ideas are very similar in nature. Therefore, grade level of the respondents does not serve as a major factor in the results of the survey administered.

The comparison between male and female results are more diverse than the grade levels. The females have a narrower perception of vocational agriculture and show greater

resistance in enrolling in vocational agriculture. They, too, select different courses than the male students select. Therefore, all needs to be considered.

Finally, the living situation of students appears to cause a difference in opinion. Farm students are more inclined to enroll in vocational agriculture and modify their class schedules to enroll. However, they also typically think of vocational agriculture as farming. The broadest perception is held by the town students. They view agriculture as both agribusiness and farming. The acreage students appear to be the most reserved and most likely to feel that vocational agriculture is not for everyone. Therefore, there were some great differences in opinion. Consequently, one must examine and remember who their target audience is when trying to convey a message.

IMPLICATIONS

After reviewing the objectives and major purpose of this creative component, one can see that the survey indicates many ideas to accomplish the objectives. The purpose stated earlier for this creative component was to investigate specific items that will help vocational agriculture instructors to reverse the current downward trend in their high school departmental enrollments and return it to its once popular status in the late 1970's or at least to maintain their current enrollments.

Keeping in mind the conclusions drawn from the survey, a plan must be devised to accomplish the purpose and objectives mentioned. According to James Cummins (1988), Area Supervisor for the State Agricultural Education Service, the first step in developing a good plan is to determine the needs of the students. The survey depicts these needs. Students want predominantly animal science, agricultural mechanics, and environmental science curricula administered for science credit to help them reach their high school graduation requirements and/or college entrance requirements. They want to receive more "hands on" experience, too, from their high school vocational agriculture courses. To a moderate degree, students "wants" can be translated into the student "needs".

Some of the research completed prior to administering the survey which is highlighted in the introduction of this report also supports these outcomes. John Moore (1987), professor of biology at the University of California, had stated that vocational agriculture programs need to move away from the traditional programs. Students do not want to take year-long courses that teach them farming. Dr. Don Herring and Richard Norris (1987) suggested implementing semester courses into the vocational agriculture curricula to allow the students to select courses within their interest area. Both of these concepts were supported by the survey respondents. Ironically, Herring and Norris (1987) mentioned courses in agricultural mechanics and renewable natural resources as two

highly rated topics that students wish to learn more about. These two courses also surfaced on this survey.

Ron Wilson (1987), Vice President for Public Affairs for the Farm Credit Services, mentioned that agriculture teaches many science concepts and applies these concepts to practical situations. By offering agriculture for science credit, the students are also able to gain more credits that will enable them to meet the college entrance requirements and his/her high school graduation requirements while taking some fun courses. This too, was supported by the results of this survey.

An item that was favorably indicated by the survey was that a name change could benefit the agriculture department. This is not really a need of the students, but instead a way to draw attention to the program. Warmbrod and Staller (1988) felt that cosmetic alterations such as this were not really needed to attract students. However, the survey outcome indicated that a name such as Agriscience could affect the future enrollment.

An item not addressed in the introduction was the possible offering of more "hands on" activities throughout courses offered in the program. This is important and can be done more effectively through the semester courses opposed to the year-long courses. Students need to be doing something in class besides taking notes and this concept allows this. Also, the SAE/SOE program provides a way to accomplish this

concept. FFA can play a part with awards, contests, and student recognition.

In order to effect change based on the perceptions of the students surveyed a strategy must be devised. The use of: advisory councils, survey results, verbal student input, and administrative consent will allow changes to be integrated into the vocational agriculture curriculum. It must be a moderate change and not drastic in nature. Students may respond negatively to too much change at one time. An example four year plan for change could include the following:

1. Year one should show the name change of the department and two semester courses offered for science credit;
2. Year two should consist of two additional semester courses offered again for science credit;
3. Year three two more courses are added with science credit; and
4. Year four has two more offered for science credit.

The "hands on" concept should be maintained within the semester courses offered and year-long courses are phased out over the four-year period. One year-long course would be deleted from the curriculum per year.

An exploratory agriculture course should also be taught to eighth graders when setting up this new program. Eighth grade students who responded to the surveys felt that the exploratory program would be helpful in increasing enrollments and also FFA memberships in the long run. This program would

increase the basic understanding and awareness of the agricultural enterprises for the general population because all eighth graders would enroll in the required program (Russell 1987). Some of the false perceptions held by the students could then be cleared up through this method. Females would then be exposed to agriculture and less reluctant to enroll in the vocational agriculture courses in the high school.

As mentioned in the introduction, it must be remembered that agriculture programs need to provide offerings that fit each student's need; schedules that do not compete with other requirements; course options so that students can buy the products they need without having to purchase something that does not fit; and classes that satisfy required subjects such as science (Holloway, 1988). It is the task of the local agriculture instructor to keep current enrollments up in the agriculture programs.

To accomplish this, one must know the needs of his/her students and devise a plan to meet those needs. The plan may include length of courses, types of courses, and the rotating of courses. The vocational agriculture programs will be much different in the 1990's than in the 1980's if this concept is remembered. As James B. Hudak of Arthur Andersen and Company recently observed, "The future will not be just like the past" (Campbell, 1987). If it is, the local agricultural program of today will be nonexistent and will become just a statistic for

the Iowa Department of Education and the National FFA Center.

This is the challenge of the 1990's!

> "The vocational agriculture professional must rely upon their strengths, take a positive approach, and keep in mind that instruction of students in agriculture is number one priority." (Butcher, 1987).

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Appendix A

Dear

Your school district as well as four other school districts in AEA 7 are being surveyed. These surveys will be completed by all high school students in eighth, ninth, and tenth grades within the selected school districts. This survey is to help determine student perceptions of the Agricultural Science departments in which they are served by, as well as many of the factors affecting the student's perceptions of the agriculture departments and a committment to enrolling in agriculture is explored.

Please have all, or as many as possible, of your eighth, ninth, and tenth grade students complete the survey. This may be done by administering them through a required course for that grade. For example through a history class. Also, you need to complete the short questionaire concerning school statistics.

This information should be returned in the enclosed self-addressed envelope by March 7, 1988.

The results of the survey can be obtained or any questions can be answered by contacting Ellen Doese, Wapsie Valley Agriculture Science And Technology Instructor, (319) 635-2268. Thank you for your time and cooperation.

Sincerely,

Ellen Doese
Agriculture Science and Technology
Wapsie Valley Community School
Fairbank, Iowa 50629

David K. Owens
Superintendent
Wapsie Valley Community School
Fairbank, Iowa 50629

Linda Lamos
Guidance Counselor
Wapsie Valley Community School
Fairbank, Iowa 50629

SCHOOL DISTRICT PROFILE FOR AGRICULTURE DEPARTMENT SURVEY

School District Name:_____

School District P.O.:_____

1. What is your K-12 enrollment (1987-88)?_____

2. What is your 8th grade enrollment (1987-88)?_____

3. What is your 9th grade enrollment (1987-88)?_____

4. What is your 10th grade enrollment (1987-88)?_____

5. What is your current Agriculture Department enrollment?

_____

6. What are the current class offerings in the Agriculture Department and the enrollment in each course?

COURSE NAME	LENGTH	ENROLLMENT

7. How many students completed the survey form that are in the eighth grade?_____

8. How many students completed the survey form that are in the ninth grade?_____

9. How many students completed the survey form that are in the tenth grade?_____

THANK YOU FOR YOUR INFORMATION

Dear Student:

You have been asked to complete this survey regarding student perceptions of Agricultural Science departments, factors affecting your perceptions, and a commitment on your part to enroll in agriculture classes. Your help will determine the direction of Agriculture Science and Technology Departments in AEA 7 and throughout the State of Iowa.

Your opinions will be kept in the strictest of confidence. Please read each item carefully and mark your response on the survey form as directed. You may use either pencil or pen. Please choose one best response for each question.

This information will be compiled into a report format and will be available by contacting Ellen Doese, Wapsie Valley Agriculture Science and Technology Instructor. If you have any questions about the survey, please contact her at Wapsie Valley Community School, (319) 638-6711.

Please complete the survey form within the designated time given to you by your counselor and she will return it to Mrs. Ellen Doese. Thank you!

Sincerely,

Ellen Doese
Agriculture Science and Technology
Wapsie Valley Community School
Fairbank, Iowa 50629

David K. Owens
Superintendent
Wapsie Valley Community School
Fairbank, Iowa 50629

Linda Lamos
Guidance Counselor
Wapsie Valley Community School
Fairbank, Iowa 50629

AGRICULTURAL DEPARTMENT QUESTIONAIRE

PLEASE READ THE BACKGROUND INFORMATION AND DIRECTIONS BEFORE ATTEMPTING ANY OF THE SURVEY QUESTIONS.

Background Information: We, in the Agriculture Science Department, would like your input on curriculum offerings within the department and your feelings about the department as it stands at present. Your survey will remain confidental and anonyeous and it will be used to ieprove the Agriculture Science Department and its offerings.

Directions: Please complete the preliminary information below by circling the appropriate item that completes the information requested. Following this, please rate all items below in the blank provided before each item. When completing these, consider all statements to occur sometime during your high school career. Rank each item from 1 to 5 with 1 being strongly disagree and 5 being strongly agree. If a question is not applicable to you, please enter NA in the blank preceding the question.

Grade: 8 9 10

Sex: Male or Female

Have you ever been enrolled in or taken an agriculture course before? Yes or No

Which best describes your living situation? Farm Acreage or Town

Has your brother or sister ever taken agriculture before? Yes or No

Are you a present or past 4-H member? Yes or No

Are you or were you in athletics at sometime during your high school career? Yes or No

Are you enrolled in agriculture now? Yes or No

Please use the following scale for the remaining items below.

1_____2_____3_____4_____5

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree

_____1. The agriculture department should offer semester courses instead of year long courses.

_____2. If you would receive science credit in agriculture classes, you would enroll in an agriculture class.

_____3. The name agri-science is more appealing than agriculture.

_____4. You would be interested in a semester course in soil science.

_____5. You would be interested in a semester course in crop science.

_____6. You would be interested in a semester course entitled Introduction to Agriculture Science and Technology.

_____7. You would be interested in a semester course in animal science (nutrition, breeding, selection).

_____8. You would be interested in a semester course in small gas engines and electricity (parts, overhauling, troubleshooting, wiring, switches).

_____9. You would be interested in a semester course in ag facilities and structures (carpentry, masonry, buildings).

____10. You would be interested in a semester course in environmental science (soil, wildlife, water conservation).

____11. You would be interested in a semester course in advanced livestock management (artifical breeding, ration balancing).

____12. You would be interested in a semester course in agricultural processing (milk, meat, vegetables, fruits, etc).

____13. You would be interested in a semester course in Farm/Agribusiness Management (recordkeeping, analysis).

____14. You would be interested in a semester course in floriculture-indoor plants (flowers, corsages, contructing centerpieces).

____15. You would be interested in a semester course in landscaping (planning, selecting plants, planting).

____16. You would be interested in a year long course in Agriculture I--Introduction to Agriculture and Animal Science.

____17. You would be interested in a year long course in Agriculture II--Soil Science and Crop Science (parts of soil, fertilizing, liming, raising crops).

____18. You would be interested in a year long course in Agriculture III--Agricultural Mechanics (electricity, welding, carpentry, small gas engines).

____19. You would be interested in a year long course in Agriculture IV--Farm Agribusiness Management (job search, business organizations, marketing, record analysis).

____20. You would be interested in an Agriculture Science Class if it were offered at the eighth grade level (exploratory agriculture--what are the agricultural jobs available).

____21. Only males should enroll in agriculture classes.

____22. Most of the time, you go into farming if you enroll in agriculture classes.

____23. You would be interested in some agriculture classes if you were planning on going to college to study agriculture.

____24. The farm economy problem is a reason you would not take agriculture classes.

____25. When you think of agriculture, you think of farming.

____26. When you think of agriculture, you think of agribusiness.

____27. Only people who live on a farm should enroll in agriculture classes.

____28. Your parents would not mind if you enrolled in an agriculture class.

____29. You are planning on enrolling in an agriculture class your freshman year (if applicable).

____30. You are planning on enrolling in an agriculture class during your high school career.

____31. You would like to enroll in an agriculture class, but scheduling conflicts prevent you from doing so.

____32. You would like to enroll in an agriculture class, but it is more important to use your electives for foreign language.

____33. You would like to be a member of the FFA if you enrolled in an agriculture class.

____34. Agriculture affects your lifestyle.

____35. Agriculture will not affect you five years from now.

____36. Agriculture involves more than farming.

____37. Agriculture means farming

____38. Agriculture is important to Iowa.

____39. Agriculture is important to you.

____40. Agriculture is a business.

____41. Agriculture does not pertain to how a business is run.

____42. Agriculture is only production oriented.

IF ENROLLED IN AGRICULTURE CLASSES PREVIOUSLY, PLEASE COMPLETE THE ITEMS BELOW. IF THE ITEMS ARE NOT APPLICABLE, PLEASE ENTER NA IN THE BLANKS PROVIDED.

____43. Scheduling conflicts resulted in you not continuing to take agriculture classes.

____44. You stopped taking agriculture classes because your career goals did not involve farming.

____45. The new admission requirements at colleges discouraged you from taking agriculture classes.

____46. The Supervised Occupational Experience Program was a waste of time.

____47. You were discouraged by your parents in taking agriculture classes.

____48. You were a member of the FFA Organization when you were enrolled in agriculture classes.

____49. FFA was a waste of time for you.

____50. Your athletic involvement hindered you from participating much in FFA.

____51. You did not continue to enroll in agriculture classes because you took foreign language classes instead.

____52. Your high school graduation requirements did not allow you to continue your enrollment in agriculture classes.

____53. The education you received in your agriculture classes did not meet your expectations.

____54. You did not complete your enrollment in agriculture classes because they were year long courses instead of semester courses.

____55. You did not complete your enrollment in agriculture courses because they were semester courses instead of year long courses.

____56. Your agriculture classes did not provide you with an opportunity to practice skills learned.

THANK YOU FOR YOUR INPUT, TIME, AND EFFORT.

WAPSIE VALLEY COMMUNITY SCHOOLS AND AGRICULTURE SCIENCE DEPARTMENT